THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FRANK R. CORRIGAN,
SAM ANTHONY and JOHN M. ZARICHANSKY

Appeal No. 96-1118
Application 07/995,229[1]

ON BRIEF

Before WARREN, WALTZ and SPIEGEL, *Administrative Patent Judges.*

WARREN, *Administrative Patent Judge.*

Decision on Appeal and Opinion

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 1 through 22 as amended subsequent to the final rejection.[2] Appellants have withdrawn the appeal with respect to claims 12 through 22,[3] leaving appealed claims 1 through 11 for consideration on appeal.

---

[1] Application for patent filed December 22, 1992.
[2] Amendment of April 18, 1994 (Paper No. 8).
[3] Brief, filed September 14, 1995 (Paper No. 21; page 2).

We have carefully considered the record before us, and based thereon, find that we cannot sustain the ground of rejection of appealed claims 1 through 11 under 35 U.S.C. § 112, second paragraph (answer, pages 2-3). We have reviewed the language "*sharp* surfaces" appearing in the last line of claim 1 (emphasis supplied) in light of claim 1 as a whole, as well as in view of the specification, as to whether this claim in fact sets out and circumscribes a particular area with a reasonable degree of precision and particularity as required by the statute. *In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971). We find that it is disclosed in the specification that "CBN [cubic boron nitride] particles formed directly upon conversion have a distinct profile from those CBN crystals obtained by milling" as such "particles are not as rounded and provide the sharp surfaces needed in abrading or cutting tools" (page 9, lines 31-34). Accordingly, we reverse the ground of rejection under § 112, second paragraph, because we conclude that one skilled in this art would reasonably understand from the specification that what is claimed is "multicrystalline cubic boron nitride particles" that "comprise sharp surfaces" required for abrading or cutting.

We have further carefully considered the record and find that we also can not sustain either of the grounds of rejection under 35 U.S.C. § 103 based on Adaurov et al. taken with Wentorf, Jr. et al. (answer, pages 3-4).[4] It is well settled that the examiner must satisfy his burden of establishing a *prima facie* case of obviousness by showing some objective teaching or suggestion in the applied prior art taken as a whole or that knowledge generally available to one of ordinary skill in the art would have led that person to the claimed invention, including each and every limitation of the claims, without recourse to the teachings in appellants' disclosure. *See generally, In re Oetiker*, 977 F.2d 1443, 1447-48, 24 USPQ2d 1443, 1446-47 (Fed. Cir. 1992) (Nies, J., concurring); *In re Fine*, 837 F.2d 1071, 1074-76, 5 USPQ2d 1596, 1598-1600 (Fed. Cir. 1988); *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531-32 (Fed. Cir. 1988).

We agree with appellants (brief, e.g., pages 5-6) that the examiner has failed to establish on the

[4] The references relied on by the examiner with respect to the grounds of rejection are listed at page 2 of the answer. We refer to these references in our opinion by the name associated therewith by the examiner.

record that the combined teachings of Adaurov et al. and Wentorf, Jr. et al. would have motivated one of ordinary skill in this art to utilize a mixture of graphite and hexagonal boron nitride (HBN) in an apparatus utilizing a reaction chamber in combination with carbide punches and electrical resistance heating with the reasonable expectation of obtaining the cubic boron nitride (CBN) product specified in appealed claim 1. As pointed out by appellants, the process of Adaurov et al. is indeed different from the process of Wentorf, Jr. et al. We find that the process of Adaurov et al. uses explosive power generated by detonating an explosive charge containing HBN and/or graphite within a reusable reaction chamber to provide the pressure and temperature to transform HBN into, *inter alia*, CBN, that has a particle size of between 0.05-5.0 microns (e.g., col. 7, line 41), while the process of Wentorf, Jr. et al., which utilizes an apparatus falling within appealed claim 1 to generate the pressure and temperature to transform HBN in the presence of at least one specified catalyst to CBN, which can have a particle size of 0.2-0.4 mm (e.g., col. 11, lines 37-39). The examiner has failed to advance any evidence or scientific reasoning explaining why one of ordinary skill in this art would find the motivation in a process which generates relatively small particle size CBN via explosive power to use a mixture of graphite and HBN taught therein in a distinctly different process which generates much larger particle size CBN. Indeed, such an explanation is not found in the contention that these different processes are equivalent simply because each generates the necessary pressure and temperature to form CBN from HBN (answer, page 3). Thus, it is manifest that the only direction to appellants' claimed invention as a whole on the record before us is supplied by appellants' own specification. *Fine*, *supra*; *Dow Chemical*, *supra*.

The examiner's decision is reversed.

Reversed

CHARLES F. WARREN Administrative Patent Judge	)	
THOMAS A. WALTZ Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
CAROL A. SPIEGEL Administrative Patent Judge	)	

Robert E. Walter
General Electric Company
One Plastics Avenue
Pittsfield, MA 01201